



## Technical Data Sheet

- Extra Long Life
- Premium Protection
- Energy Efficiency
- Wider Operating Temperature Window

# Shell Tellus S4 VE 46

## Advanced Synthetic Gas To Liquid (GTL) Zinc Based Hydraulic Oil

Shell Tellus S4 VE hydraulic fluids are based on Gas-to-liquid (GTL) technology and are designed for a broad range of stationary and mobile applications, with their extra-long oil life, wide operating temperature window, impactful energy efficiency, and robust equipment protection. Shell Tellus S4 VE enables customers to realise potential cost savings through longer equipment service life and lower maintenance costs.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

#### • Total cost of ownership savings

Shell Tellus S4 VE, made with GTL base oil and high performance additive technology, targets to maximize hydraulic efficiency which can lead to 1-5% reduced energy consumption both in industrial and mobile equipment\*.

The product enables customers to extend their maintenance schedule through longer oil life, exceptional wear protection of hydraulic equipment, and strong protection from the buildup of sludge and varnish.

#### • Extra-long oil life

Shell Tellus S4 VE Oils are advanced performance, shear stable hydraulic oils using high viscosity index GTL base oil technology with strong thermal and oxidative stability. In addition to meeting standard industry and OEM specification requirements, Shell Tellus S4 VE will achieve up to 10,000 hours maximum duration that can be measured in the industry Turbine Oil Stability Test (TOST).

#### • Comprehensive system efficiency

Rapid air release makes Shell Tellus S4 VE an ideal hydraulic oil for modern hydraulic systems where reservoir sizes are small. Quick air release reduces noise and prevents pump wear by minimizing air contamination on the high-pressure side.

Excellent filtration and water separation performance enables Shell Tellus S4 VE to help maintain clean running equipment. Furthermore, Shell Tellus S4 VE allows for precise operation and control through its optimized stick-slip performance. Shell Tellus S4 VE also meets and exceeds stringent cleanliness requirements (ISO 4406).

#### • Premium Wear Protection

Shell Tellus S4 VE demonstrates outstanding performance even in the most stringent pump tests such as Bosch Rexroth RDE 90245, Denison T6H20C (dry and wet versions) and Eaton Vickers 35VQ25. In addition, Shell Tellus S4 VE has proven performance in thousands of hours of field trials in real equipment ranging from excavators to plastic injection molding machines.

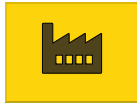
#### • Sub-arctic to extreme desert heat operations

Use of special high viscosity index base oils (GTL technology) and viscosity modifiers, minimizes the oil's variation in viscosity with changes in temperature. Exhibiting good fluidity at sub-zero temperatures enables fluid pumpability at low temperatures, prevents cavitation, saves energy, and shortens time for warm-up.

Shell Tellus S4 VE offers durable equipment performance at high temperatures. This wide operating temperature window offered by Shell Tellus S4 VE may allow you to use this hydraulic oil for most seasons.

- \*Actual energy savings may vary depending on application, current oil used, maintenance procedures, condition of equipment, operating conditions and intensity of hydraulic power usage.

## Main Applications



### • Mobile Hydraulic systems

Shell Tellus S4 VE, with its broad operating window, long oil drain intervals, superior system operation characteristics and many OEM approvals, is designed to be particularly suitable for mobile hydraulic systems such as construction and mining machinery.

### • Industrial hydraulic systems

Shell Tellus S4 VE, with its energy efficiency benefits and long oil life, is designed to be particularly suitable for stationary industrial hydraulic systems with a high intensity of hydraulic power usage such as injection molding and high pressure metal pressing operations.

### • Wind Turbines

Wind turbine systems are exposed to harsh conditions such as extreme cold climate and humid regions including offshore locations. Shell Tellus S4 VE with its high performance additives in GTL base oil enables long service life and its high viscosity index delivers responsive performance even in cold start conditions.

### • Marine Hydraulic Systems

Shell Tellus S4 VE is recommended for marine applications where ISO HV category hydraulic fluids are recommended.

## Specifications, Approvals & Recommendations

- Bosch RDE 90245
- Denison HF-0, HF-1, HF-2
- Eaton E-FDGN-TB002-E
- GB 11118.1-2011 L-HV
- GB/T 33540.4-2017
- GB 11118.1-2011 L-HS
- JCMAS P 041:2004 Normal Temperature and Low Temperature
- ASTM D6158-05 HV
- ISO 11158 HV Fluid
- DIN 51524-3 HVLP
- Danfoss

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

## Compatibility & Miscibility

### • Compatibility

Shell Tellus S4 VE fluids are suitable for use with most hydraulic pumps.

### • Fluid Compatibility

Shell Tellus S4 VE fluids are compatible with most other mineral and synthetic based hydraulic fluids. However, mineral and synthetic hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire resistant fluids).

### • Seal Compatibility

Shell Tellus S4 VE fluids are compatible with seal materials normally specified for use with mineral/synthetic oils.

## Typical Physical Characteristics

Properties			Method	Shell Tellus S4 VE 46
Viscosity Grade			ISO 3448	46
Kinematic Viscosity	@40°C	cSt	ISO 3104	46
Kinematic Viscosity	@100°C	cSt	ISO 3104	8.7
Viscosity Index			ISO 2909	165
Shear Stability	@100°C after 5000 N/ 60 °C/ 20 hrs	%loss	CEC L45-A-99	5
Flash Point			ASTM D92	260
Pour Point			ISO 3016	-50
Brook field	@-25°C	cP	ASTM D2983	3 000
Density	@15°C	kg/m <sup>3</sup>	ISO 12185	832
Dielectric Strength			ASTM D877	35

Properties	Method	Shell Tellus S4 VE 46
Copper Corrosion (3hrs @100°C)	ISO 2160	1
Foaming Characteristics Sequences I,II,III Tendency/Stability	ml/ml ASTM D892	30/0

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

- **Health and Safety**

Shell Tellus S4 VE is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from <https://www.epc.shell.com/>

- **Protect the Environment**

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Advice**

Check compatibility with other products before use. Advice on applications not covered here may be obtained from your Shell representative.